DISCUSSION OF THE AMENDMENT

The specification has been amended by inserting supporting language for various of the original claims.

Claims 2, 5, 6, 8, 9 and 18 have been amended by replacing "a" with --said-- before "wax." Claim 57 has been amended by deleting "obtained by addition polymerization". Claim 68 has been amended by replacing a period with a semicolon.

No new matter is believed to have been added by the above amendment. Claims 1-43 and 45-69 remain pending.

REMARKS

Applicants thank the Examiner for the courtesy extended to Applicants' attorney during the interview held November 22, 2004, in the above-identified application. During the interview, Applicants' attorney explained the presently-claimed invention and why it is patentable over the applied prior art, and discussed other issues raised in the Office Action. The discussion is summarized and expanded upon below.

The rejections of Claims 57-62 and 65 under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over, U.S. 5,935,751 (Matsuoka et al); and under 35 U.S.C. § 103(a), of Claim 63 as unpatentable over Matsuoka et al combined with U.S. 5,213,932 (Shimazaki); of Claim 64 as unpatentable over Matsuoka et al combined with JP 59-165069 (JP '069); and of Claim 66 as unpatentable over Matsuoka et al combined with U.S. 5,547,802 (Kawase et al), are all respectfully traversed.

As recited in Claim 57, an embodiment of the presently-pending invention is a toner comprising: a binder resin and a particulate wax, wherein the toner has a volume-average particle diameter of from 3 to 12 μm, and a half value width of a number-average particle diameter of particulate wax contained therein, when a cross section of the toner is observed, of 0.06 μm or less, and wherein a distribution of particulate wax having an average particle diameter of 0.01 μm or more throughout the toner satisfies the following equation:

$$(A/B)/(C/D) \leq 0.1$$

wherein A is total area of particulate wax contained in an outermost layer of the toner to a depth of 0.1 μm;

B is total area of said outermost layer of the toner;

C is total area of particulate wax contained in a remainder of the toner (at a depth of greater than 0.1 μm from the surface of the toner); and

D is total area of said remainder of the toner,

wherein all areas are measured as observed in a cross section of said toner through a center point of said toner.

In effect, the toner is substantially free of wax particles at its outermost part, specifically in the area of the depth of 0.1 μm from the surface of the toner, as described in the specification at page 47, line 3, through page 48, line 7, and Fig. 4.

Matsuoka et al discloses a toner for developing an electrostatic latent image comprising a binding resin and a colorant, wherein the toner contains wax in an amount from 0.1% to 40% by weight, the amount of wax disposed on the surface of the toner is from 1% to 10% by weight, the number-average dispersion diameter of the wax is from 0.1 to 2 μm, and preferably particles of the wax are flake-shaped (paragraph bridging columns 4 and 5). The Examiner particularly relies on Example 7 therein, which describes a toner having an average particle size of 8.5 μm, a content of wax inside the toner of 5.0% by weight, and as shown in Table 4, the amount of wax on the surface of 5.8% by weight.

Shimazaki is relied on for its disclosure of a magenta colorant. JP '069 is relied on for its disclosure of a magenta colorant. Kawase et al is relied on for a disclosure of ratio of volume mean particle diameter to number average particle diameter.

The Examiner finds that Matsuoka et al's Example 7 meets the terms of the equation:

$$(A/B)/(C/D) \leq 0.1.$$

The Examiner is incorrect for the following reasons. Said Example 7 describes an average particle size of 8.5 μm. Thus, using the formula that area = πr^2, B in the above equation is calculated as:

$$B = (\pi (4.25)^2 - \pi (4.15)^2) / (\pi (4.25)^2 = 0.0465.$$

$$D = \pi (4.15)^2) / (\pi (4.25)^2 = 0.9535.$$

Thus, B/D = 0.0488

Volume = 4/3 πr^3. Thus, the volume proportion of the outermost layer of toner to the total volume of toner is $(4/3\ \pi\ (4.25)^3 - 4/3\ \pi\ (4.15)^3) / (4/3\ \pi\ (4.25)^3 = 0.0689$.

Volume proportion (V.P.) in an outermost layer can be converted to area proportion (A.P.) in an outermost layer by the equation: V.P. x (0.0465 / 0.0689) = A.P.

As Table 4 of Matsuoka et al indicates 5.8 % by weight of wax on the surface, C in the above equation is:

A = 0.058 x (0.0465 / 0.0689) = 0.0391. Thus,

C = 1 – 0.0391 = 0.9609, and A/C = 0.0407.

Therefore, (A/B)/(C/D) (which is the same as (A/C)/(B/D)) = 0.0407 / 0.0488, or 0.833.

Thus, Matsuoka et al does not meet the terms of the present claims.

For all the above reasons, it is respectfully requested that the rejections over Matsuoka et al alone, or combined with other prior art be withdrawn.

The rejections of Claims 1-3, 10, 12, 14-18, 20-23, 25, 26, 31, 33, 35, 36, 39, 41, 43, 45-49, 51, 54 and 55 under 35 U.S.C. § 102(e), and of Claims 24, 27-30, 32, 34, 37, 38, 40, 42 and 57-69 as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over, U.S. 6,656,653 (Mitsuhashi et al), are respectfully traversed. Whether or not there is overlap between the presently-claimed invention and the disclosure of Mitsuhashi et al, the present invention seeks to limit the amount of wax in an outermost layer, while Mitsuhashi et al focuses on a specified crosslinking degree. At best, Mitsuhashi et al is available under 35 U.S.C. § 103(a) only. However, Applicants' assignee represents that to the extent any of the inventive subject matter disclosed in Mitsuhashi et al was invented prior to the presently-claimed invention, that subject matter, and the presently-claimed invention were, at the time the presently-claimed invention was made, commonly owned. In addition, Mitsuhashi et al was filed in the United States on December 15, 2000. The Mason Declaration submitted

herewith demonstrates that the present invention, if not found to have been actually reduced to practice prior to December 15, 2000, was conceived prior to December 15, 2000, and that diligence to a constructive reduction to practice by filing the present application on December 18, 2000 existed at least for the period beginning just before December 15, 2000 to the filing date. Compare *In re Gosteli*, 872 F.2d 1008, 10 USPQ2d 1614, 1617 (Fed. Cir.1989) **(copy enclosed)** and *In re Mulder*, 716 F.2d 1542, 1544-46, 219 USPQ 189, 192-94 (Fed. Cir. 1983) **(copy enclosed)**. Note that *Gosteli* and *Mulder* were decided when applicable rules required that completion of the invention be in this country, while this is no longer a requirement. The Mason Declaration, coupled with the inventors' declaration under 37 CFR 1.63 of record, should satisfy any requirements for demonstrating completion of the invention prior to December 15, 2000. Thus, Mitsuhashi et al is removed as prior art herein. Accordingly, it is respectfully requested that these rejections be withdrawn.

The rejection of Claims 1-3, 10, 12, 15, 16, 20-23, 25, 31, 33, 35, 36, 39, 41, 43, 45-49, 51, 54, and 55 under the judicially created doctrine of obviousness-type double patenting over Claims 1-119 of Mitsuhashi et al, is respectfully traversed. **Submitted herewith** is a terminal disclaimer over Mitsuhashi et al. Accordingly, it is respectfully requested that this rejection be withdrawn.

The rejection of Claims 2, 5, 6, 8, 9 and 18 under 35 U.S.C. § 112, second paragraph, is respectfully traversed. Indeed, the rejection is now moot in view of the above-discussed amendment. Accordingly, it is respectfully requested that it be withdrawn.

The rejection of Claims 57-69 under 35 U.S.C. § 112, first paragraph, as failing to satisfy the written description requirement therein, is respectfully traversed. As demonstrated by the pages from Morrison and Boyd, submitted with the Amendment filed February 18, 2004, addition polymerization is notoriously well-known from the types of monomers and the polymerizations described in the specification herein. One skilled in the art would appreciate

that Applicants were in possession of this subject matter as of the filing date, i.e., that the **chemical** type of polymerization is addition polymerization. The Examiner's discussion of emulsion polymerization, suspension polymerization, etc. is irrelevant, because these are **physical** processes. Nevertheless, the issue is now moot in view of the above-discussed amendment.

For all the above reasons, it is respectfully requested that this rejection be withdrawn.

The objection to the specification at paragraphs 4 and 5 of the Office Action is respectfully traversed. With regard to paragraph 5(1), it is noted that each of Claims 4, 5, and 7 depend on Claim 1, which has antecedent support in the specification at page 45, lines 18-25. The remaining objections would appear to be moot, although it is not clear what the Examiner intends by the comment in paragraph 5(5) that the recitation in Claim 21 is broader than the disclosed crosslinked primary polymer particles because it includes primary polymer particles comprising a crosslinked polyester resin.

For all the above reasons, it is respectfully requested that the objection be withdrawn.

The objection to Claims 68 and 69 is now moot in view of the above-discussed amendment. Accordingly, it is respectfully requested that it be withdrawn.

Applicants gratefully acknowledge the Examiner's indication of allowability of the subject matter of Claims 4, 7, 11, 13, 19, 50, 52, 53 and 56. Nevertheless, Applicants respectfully submit that all of the presently pending and active claims in this application are now believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Respectfully submitted,

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U.S. Court of Appeals Federal Circuit
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Decided April 24, 1989
No. 88-1611

Headnotes

PATENTS

1. Practice and procedure in U.S. Patent and Trademark Office -- Prosecution -- Filing date (§ 110.0906)

Patentability/Validity -- Date of invention -- In general (§ 115.0401)

Use of word "invention" in 35 USC 119 clearly refers to what claims define, not what is disclosed in foreign application, and thus if effective filing date for subject matter claimed in U.S. application is in issue, foreign application relied upon for priority under Section 119 must be examined to determine whether it supports, within meaning of 35 USC 112's first paragraph, what is claimed in U.S. application, and claims in issue are therefore entitled to benefit of foreign priority date only if foreign application properly supports such claims as required by Section 112.

2. Practice and procedure in U.S. Patent and Trademark Office -- Prosecution -- Filing date (§ 110.0906)

Patentability/Validity -- Date of invention -- In general (§ 115.0401)

Decision of Court of Customs and Patent Appeals in *In re Ziegler* , 146 USPQ 76, which held that foreign application relied upon for priority under 35 USC 119 need show support only for so much of claimed invention as is disclosed in anticipating prior art reference in order to achieve priority date for entirety of claimed invention, does not conflict with CCPA cases holding that claims of U.S. application are entitled to benefit of foreign priority date only if foreign application fully supports

them as required by first paragraph of 35 USC 112, since Section 112 compliance was not at issue in *Ziegler* , and any inconsistency between language in *Ziegler* and other cases has been removed sub silentio by later decisions in which court sat en banc.

3. Patentability/Validity -- Date of invention -- Reduction to practice (§ 115.0405)

Declaration of foreign application's priority date, made pursuant to 37 CFR 1.131 to overcome anticipating reference, does not establish reduction to practice as required by Section 1.131(b), since regulation requires declaration to allege acts that establish completion of invention "in this country" before effective date of prior art reference, and applicants allege no inventive acts inside U.S.

4. Patentability/Validity -- Date of invention -- In general (§ 115.0401)

Patentability/Validity -- Adequacy of disclosure (§ 115.12)

Foreign patent application relied upon for priority over anticipating reference pursuant to 35 USC 119 did not provide adequate written description of entire subject matter of claims in U.S. application as required by 35 USC 112's first paragraph, since, although foreign application need not describe claimed subject matter exactly, description must clearly allow persons of ordinary skill in art to recognize that applicants invented claimed subject matter, and it is undisputed that U.S. application contains subject matter not included in foreign application.

Case History and Disposition:

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Appeal from decision of Patent and Trademark Office Board of Patent Appeals and Interferences.

Application for patent of Jacques Gosteli, Ivan Ernest, and Robert B. Woodward, serial no. 423,348. From decision of Board of Patent Appeals and Interferences affirming examiner's final rejection of claims 48-51, applicants appeal. Affirmed.

Attorneys:
Bruce M. Collins, of Mathews, Woodbridge, Goebel, Pugh & Collins, Morristown, N.J., for appellant.

Fred E. McKelvey, solicitor (Charles E. Van Horn, deputy solicitor, John W. Dewhirst and Harris A. Pitlick, associate solicitors, with him on brief), for appellee.

Raymond C. Stewart, of Birch, Stewart, Kolasch & Birch, Falls Church, Va., for amicus curiae Kitamura et al.

Judge:
Before Bissell and Archer, circuit judges, and Re, chief judge (U.S. Court of International Trade, sitting by designation).

Opinion Text

Opinion By:
Bissell, J.

The decision of the United States Patent and Trademark Office (PTO) Board of Patent Appeals and Interferences (Board), Appeal No. 665-18 (June 30, 1988), affirming the examiner's final rejection of claims 48-51 in the patent application, Serial No. 423,348, of Jacques Gosteli, Ivan Ernest and Robert B. Woodward [hereinafter Gosteli or Applicants], under 35 U.S.C. §102(e) (1982), is affirmed.

BACKGROUND

Gosteli's patent application discloses bicyclic thia-aza compounds containing a betalactam ring unsubstituted in the beta-position and having antibiotic properties. The claimed compounds are chemical intermediates used in the preparation of antibiotics known as 2-penems. Claims 48 (see Appendix A) and 49 are Markush-type genus claims, and dependent claims 50 (see Appendix A) and 51 are subgenus claims, each consisting of 21 specific chemical species. The examiner rejected claims 48-51 under section 102(e) as being anticipated by United States Patent No. 4,155,912 (Menard). Menard discloses, but does not claim, a first species, 2-[(4R,S)-4-Acetylthio-2-oxo-1-azetidinyl]-2-hydroxyacetic acid *p* nitrobenzyl ester, that is within the scope of claims 48 and 50, and a second species, 2-[(4R,S)-4-Acetylthio-2-oxo-1-azetidinyl]-2-chloroacetic acid *p* -nitrobenzyl ester, that is within the scope of claims 49 and 51.
Attempting to antedate Menard, Gosteli claimed the benefit, under 35 U.S.C. §119 (1982), of their Luxembourg patent application's foreign priority date. The disclosure of the Luxembourg application is not as complete as that of Gosteli's United States application. The Luxembourg application discloses a subgenus of the genus claimed in the United States application and specifically describes the two chemical species disclosed by Menard. Menard's effective date is December 14, 1977, seven months after the May 9, 1977, filing date of Gosteli's Luxembourg application, but five months before Gosteli's May 4, 1978, United States filing date. Thus, Menard is not an effective reference under section 102(e) if Applicants are entitled to their Luxembourg priority date.
The Board denied Gosteli the benefit of their Luxembourg priority date reasoning that:
problem in attempting to antedate the Menard reference is that their Luxembourg priority application does not disclose the "same invention" in a manner that complies with the first paragraph of 35 USC 112 as is claimed in the claims on appeal (48-51). In other words claims 48-51 contain considerable subject matter which is not specifically disclosed in the Luxembourg application.
. . . .
Since [Gosteli's] Luxembourg application does not provide a written description of the entire subject matter set forth in the appealed claims 48-51, as required by the first paragraph of 35 USC 112, we have concluded that claims 48-51 have an effective filing date as of the May 4, 1978 filing date of [Gosteli's] grandparent application Serial No. 902,639, and not as of the Luxembourg filing date. Accordingly, [Applicants have] not antedated the Menard reference.
Gosteli , Appeal No. 665-18, slip op. at 2, 3.
Alternatively, Gosteli attempted to swear behind Menard by using declarations submitted under 37 C.F.R. §1.131 (1988) (Rule 131). The Board rejected the use of Rule 131, because "the declaration does not . . . contain 'facts showing a completion of the invention in this country before the filing date of' Menard." *Gosteli* , Appeal No. 665-18, slip op. at 4. Gosteli appeals from the Board's decision, and the Institute of Bio-

Active Science, Nippon Zoki Pharmaceutical Co., Ltd., filed an amicus curiae brief.

ISSUES

1. Whether claims 48-51 are entitled, under section 119, to the benefit of a foreign priority date.
2. Whether Rule 131 allows Gosteli to swear behind the two chemical species disclosed in Menard

by establishing a constructive reduction to practice in this country based on Gosteli's foreign priority date of those two species.
3. Whether Gosteli's Luxembourg priority application provides a written description sufficient to support the entire subject matter of claims 48-51, as required by 35 U.S.C. §112, ¶1 (1982).

OPINION

I. Section 119

Claims 48-51 of Gosteli's application stand rejected under section 102(e) as anticipated by Menard. The two chemical species disclosed by Gosteli's Luxembourg priority application are disclosed by Menard and also fall within the scope of the claims on appeal. Section 102(e) bars the issuance of a patent if its generic claims are anticipated by prior art disclosing individual chemical species. *See, e.g., In re Slayter* , 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960) (stating that species anticipate a generic claim). The parties agree that Menard is an effective anticipatory prior art reference unless Applicants are entitled to their Luxembourg priority date.
Generally, an applicant may antedate prior art by relying on the benefit of a previously filed foreign application to establish an effective date earlier than that of the reference. *See* 35 U.S.C. §119; *In re Wertheim* , 541 F.2d 257, 261, 191 USPQ 90, 95-96 (CCPA 1976); Rollins, *35 USC 119-Description and Enablement Requirements* , 67 J. Pat. Off. Soc'y 386, 386 (1985). Under section 119, the claims set forth in a United States application are entitled to the benefit of a foreign priority date if the corresponding foreign application supports the claims in the manner required by section 112, ¶1. *Wertheim* , 541 F.2d at 261-62, 191 USPQ at 95-96; *Kawai v. Metlesics* , 480 F.2d 880, 887-89, 178 USPQ 158, 164-65 (CCPA 1973).
[1] Gosteli contends that their rights under section 119 are determined by focusing on (1) what is the subject matter disclosed in the Luxembourg priority application, and (2) whether that subject matter removes Menard. We disagree with Gosteli's reading of section 119. The statute provides, in pertinent part:
An application for patent for an invention filed in this country by any person who has . . . previously regularly filed an application for a patent for the same invention in a foreign country . . . shall have the same effect as the same application would have if filed in this country on the date on which the application for patent for the same invention was first filed in such foreign country . . . .
35 U.S.C. §119. The reference to the "invention" in section 119 clearly refers to what the claims define, not what is disclosed in the foreign application. *Cf. In re Scheiber* , 587 F.2d 59, 61, 199 USPQ 782, 784 (CCPA 1978) (stating that "invention" as used in 35 U.S.C. §120 (Supp. IV 1986), refers to what is claimed). Section 119 provides that a foreign application "shall have the same effect" as if it had been filed in the United States. 35 U.S.C. §119. Accordingly, if the effective filing date of what is claimed in a United States application is at issue, to preserve symmetry of treatment between sections 120 and 119, the foreign priority application must be examined to ascertain if it supports, within the meaning of section 112, ¶1, what is claimed in the United States application. *Compare Kawai* , 480 F.2d at 886, 178 USPQ at 162-63 (construing the section 112, ¶1 requirements of section 119) *with Scheiber* , 587 F.2d at 62, 199 USPQ at 784-85 (construing the section 112, ¶1 requirements of section 120).
At oral argument, the government conceded that if Gosteli claims the species disclosed in the Luxembourg application they would be entitled to the foreign priority date with regard to those claims. Thus, Menard would be ineffective as a reference against those claimed species, or any other claim properly supported by the Luxembourg disclosure as required by section 112, ¶1. We conclude, therefore, that claims 48-51 are entitled to the benefit of their foreign priority date under section 119 only if the foreign priority application properly supports them as required by section 112, ¶1. An application relying on the benefit of an earlier filing date in the United States would receive the same treatment under 35 U.S.C. §120. *See Kawai* , 480 F.2d at 886, 178 USPQ at 163.

" In re Ziegler "

[2] The Federal Circuit has adopted as precedent the decisions of the Court of Customs and Patent Appeals (CCPA). *See South Corp. v. United States* , 690 F.2d 1368, 1369, 215 USPQ 657, 657 (Fed. Cir.

1982). The government urges on appeal that *In re Ziegler* , 347 F.2d 642, 146 USPQ 76 (CCPA 1965), should be overruled as in conflict with *Wertheim, Kawai, Scheiber* , and *In re Smyth* , 189 F.2d 982, 90 USPQ 106 (CCPA 1951). According to the government, *Ziegler's* fundamental premise is that a foreign application need show support for only so much of the claimed invention as is disclosed in the prior art reference to achieve a priority date for the entirety of the claimed invention. *Accord In re Kitamura* , 9 USPQ2d 1787 (Bd. Pat. App. Int. 1988) (providing an extensive discussion by an expanded Board on the same issue).

Ziegler never mentions section 112 by name in its analysis of section 119, and yet the application of section 112 to section 119 had already been set forth in *Smyth. See Kawai* , 480 F.2d at 887-89, 178 USPQ at 163-65; *see also* Rollins, *35 USC 119-Description and Enablement Requirements* , 67 J. Pat. Off. Soc'y at 391-92 (discussing *Smyth*). We conclude that *Ziegler* did not examine section 112 compliance because the issue was not in dispute. The court stated that "[t]here is no question here that the [foreign priority] applications adequately support the broad claims, once the references have been antedated as to the narrow subject matter which they disclose." *Ziegler* , 374 F.2d at 650, 146 USPQ at 82-83. In other words, all claims in the United States application were properly supported, as required by section 112, ¶1, by Ziegler's foreign priority applications. Furthermore, both *Kawai* , 480 F.2d at 889, 178 USPQ at 165and *Wertheim* , 541 F.2d at 262 n.6, 191 USPQ at 96 n.6, cite *Ziegler* ; neither case recognizes a conflict nor an inconsistency.

However, we agree with the government that there is inconsistent language in these decisions. To the extent that *Ziegler's* language is inconsistent with that in *Kawai, Wertheim* , and *Scheiber* , that inconsistency has already been *sub silentio* removed. The CCPA's later decisions control because that court always sat *en banc* . Accordingly, we conclude that no conflict currently exists.

II. Rule 131

As an alternative position, Gosteli contends that they can swear behind Menard, under Rule 131, by establishing a constructive reduction to practice in this country based on their foreign priority date of the two species disclosed by Menard. They reason that the use of a foreign priority date to establish the reduction to practice component for a Rule 131(b) showing is authorized by *In re Mulder* , 716 F.2d 1542, 1544-46, 219 USPQ 189, 192-94 (Fed. Cir. 1983), and therefore, showing priority with respect only to as much of the invention as Menard discloses is needed. Gosteli cites the rationale in *In re Stempel* , 241 F.2d 755, 760, 113 USPQ 77, 81 (CCPA 1957), in support of their reasoning. We disagree.

[3] Rule 131 requirements are quite specific. To antedate a prior art reference, the applicant submits an oath or declaration alleging acts that establish a completion of the *invention in this country* before the effective date of the prior art. 37 C.F.R. §1.131(a).

The requirements and operation of section 119 differ from those of Rule 131. *Cf. Scheiber* , 587 F.2d at 61-62, 199 USPQ at 784 (explaining a similar contrast between section 120 and Rule 131). Rule 131 provides a mechanism for removing specific prior art references, whereas section 119 is concerned only with an applicant's effective filing date. *Cf. id* . Because section 119, unlike rule 131, operates independently of the prior art, it is appropriate that the showing required under section 119 differs from that required under Rule 131. *Cf. id* .

This case is distinguishable from *Mulder* . Gosteli's declarations make no mention of acts in this country. Gosteli relies on their Luxembourg application for a constructive reduction to practice date for the two chemical species at issue. That reliance is misplaced. *Mulder* is not purely a section 119 case. In *Mulder* , the conception date was based on activity in the United States, a date earlier than the prior art. Mulder was permitted to establish a constructive reduction to practice date based on his foreign filing. However, the constructive reduction to practice date was after the prior art. Rule 131 permitted Mulder to swear behind the reference, from the constructive reduction to practice date back to his conception date. The use of a foreign filing date in such circumstances is not inconsistent with our decisions. In *Mulder* , there was no dispute about compliance with the section 112 requirements subsumed in section 119. *See Mulder* , 716 F.2d at 1543, 219 USPQ at 191 (stating that "[t]here is no question that applicants complied with all the formalities required by §119 and

related PTO rules").
Gosteli does not point to any activity inside the United States. Furthermore, Gosteli would not need activity in this country if section 119 gave them the benefit of an effective foreign filing date prior to Menard. Under these circumstances, Rule 131 is irrelevant. Thus, we affirm the Board; Gosteli

cannot use the Rule 131 declarations filed to swear behind Menard.

III. Written Description Requirement

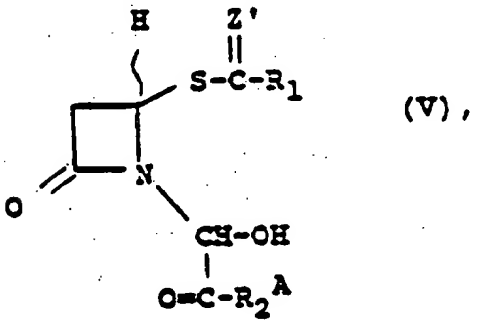
[4] The Board found that Gosteli's Luxembourg application did not provide a sufficient written description of the entire subject matter of claims 48-51, as required by the first paragraph of section 112, *Gosteli* , Appeal No. 665-18, slip op. at 3, and, accordingly, section 119 was not effective to antedate Menard. Although Gosteli does not have to describe exactly the subject matter claimed, *In re Lukach* , 442 F.2d 967, 969, 169 USPQ 795, 796 (CCPA 1971), the description must clearly allow persons of ordinary skill in the art to recognize that Gosteli invented what is claimed. *Wertheim* , 541 F.2d at 262, 191 USPQ at 96. We review this factual inquiry under the clearly erroneous standard. *See id* .
"[T]he PTO has the initial burden of presenting evidence or reasons why persons skilled in the art would not recognize in the disclosure a description of the invention defined by the claims." *Id* . at 263, 191 USPQ at 97. In this case, the PTO has met that burden by pointing out number of differences between what is disclosed in the Luxembourg priority application and what is claimed in Gosteli's United States application. Gosteli does not dispute that additional subject matter is present in the United States application. Accordingly, the Board's findings are not clearly erroneous.
The Board's decision is

AFFIRMED .

Appendix

APPENDIX A

Representative claims 48 and 50 of the Gosteli application are set forth below.
48. Compounds of the formula



(V) ,

in which
Z' represents oxygen, sulphur or a methylidene group optionally mono- or di-substituted by lower aklyl, cycloalkyl, cycloalkyl-lower alkyl, phenyl, phenyl-lower alkyl or esterified carboxy,
R_1 represents hydrogen; lower alkyl; lower alkyl monosubstituted by

hydroxy, lower alkoxy, lower alkanoyloxy, halogen, mercapto, lower alkylthio, carboxyl, carbamoyl, cyano, nitro, amino, amino mono- or di-substituted by lower alkyl, lower alkyleneamino or amino acylated by acetyl, phenoxyacetyl, tert.butoxy-carbonyl, benzyloxycarbonyl or p-nitrobenzeyl-oxycarbonyl;
carboxyl; protected carboxyl; aminocarbonyl; aminocarbonyl mono- or di-substituted by lower alkyl; cycloalkyl; cyclo-alkyl-lower alkyl; phenyl; naphthyl; phenyl-lower alkyl; phenyl, napthyl or phenyl-lower alkyl mono-substituted by
lower alkyl, lower alkoxy, halogen, nitro, amino or di-lower alkylamino;
pyridyl; thienyl; furyl; pyridyl-lower alkyl; thienyl-lower alkyl; furyl-lower alkyl; lower alkylthio;

lower alkenylthio; cycloalkylthio; cycloalky-lower alkylthio; phenylthio; phenyl-lower alkylthio; or lower alkylthio, lower alkenylthio, cycloalkylthio, cycloalkyl-lower alkyl-thio, phenylthio or phenyl-lower alkylthio monosubstituted by hydroxy, lower alkoxy, lower alkanoyloxy, halogen, mercapto, lower alkylthio, carboxyl, carbamoyl, cyano, nitro, amino, amino mono- or di-substituted by lower alkyl, lower alkanoylamino or lower alkyleneamino; and
R_2A together with the carbonyl grouping -C(=O)- to which it is attached represents a protected carboxyl group, in racemic or optically active form.
50. A compound of the formula (V) according to claim 48 selected from the group consisting of
2-[(4R,S)-4-Acetylthio-2-oxo-1-azetidinyl]-2-hydroxyacetic acid *p* -nitrobenzyl ester,
2-[(4R,S)-4-Phenylacetylthio-2-oxo-1-azetidinyl]-2-hydroxyacetic acid *p* -nitrobenzyl ester,
2-[(4R,S)-4-(2-Furoylthio)-2-oxo-1-azetidinyl]-2-hydroxyacetic acid *p* -nitrobenzyl ester,
2-[(4R,S)-4-(3-Dimethylaminobenzoylthio)-2-oxo-1-azetidinyl]-2-hydrox yacetic acid *p* -nitrobenzyl ester,
2-[(4R,S)-4-(3-Methoxycarbonylpropionylthio)-2-oxo-1-azetidinyl]-2-hy droxyacetic acid *p* -nitrobenzyl ester,

2-[(4R,S)-4-Benzoylthio-2-oxo-1-azetidinyl]-2-hydroxyacetic acid *p* -nitrobenzyl ester,
2-[(4R,S)-4-Acetoxyacetylthio-2-oxo-1-azetidinyl]-2-hydroxyacetic acid *p* -nitrobenzyl ester,
2-[(4R,S)-4-Hexanoylthio-2-oxo-1-azetidinyl]-2-hydroxyacetic acid *p* -nitrobenzyl ester,
2-([4R,S)-4-tert.-Butylthioacetylthio-2-oxo-1-azetidinyl]-2-hydroxyac etic acid *p* -nitrobenzyl ester,
2-[(4R,S)-4-(4- *p* -Nitrobenzyloxycarbonylamino-butyrylthio)-2-oxo-1-azetidinyl]-2-h ydroxyacetic acid *p* -nitrobenzyl ester,
2-[(4R,S)-4-(3- *p* -Nitrobenzyloxycarbonylamino-propionylthio)-2-oxo-1-1-azetidinyl] -2-hydroxyacetic acid *p* -nitrobenzyl ester,
2-[(4R,S)-4-(4-Benzyloxycarbonylamino-buytrylthio)-2-oxo-1-1-azetidin yl]-2-hydroxyacetic acid *p* -nitrobenzyl ester,
2-[(4R,S)-4-[2-(2-Phenoxyacetylamino)-acetylthio]-2-oxo-1-azetidinyl] -2-hydroxyacetic acid *p* -nitrobenzyl ester [sic]
2-[(4R,S)-4-Ethylthiothiocarbonylthio-2-oxo-1-azetidinyl]-2-hydroxyac etic acid *p* -nitrobenzyl ester [sic]
2-[(4R,S)-4-(cis-2-methoxycarbonylvinylthio)-2-oxo-1-azetidinyl]-2- hydroxyacetic acid acetonyl ester,
2-[(4S)-4-(cis-2-(1)-menthyloxycarbonylvinylthio)-2-oxo-1-azetidinyl] -2-hydroxyacetic acid acetonyl ester,
2-[(4R)-4-(cis-2-(1)-menthyloxycarbonylvinylthio)-2-oxo-1-azetidinyl] -2-hydroxyacetic acid acetonyl ester,
2-[(4S)-4-(trans-2-(1)-menthyloxycarbonylvinylthio)-2-oxo-1-azetidiny l]-2-hydroxyacetic acid acetonyl ester,
2-[(4R)-4 (trans-2-(1)-menthyloxycarbonylvinylthio)-2-oxo-1-azetidinyl]-2-hydroxy acetic acid acetonyl ester,
2-[(4R)-4-acetylthio-2-oxo-1-azetidinyl]-2-hydroxyacetic acid *p* -nitrobenzyl ester, and
2-[(4R,S)-4-(nicotinoylthio)-2-oxo-1-azetidinyl]-2-hydroxyacetic acid *p* -nitrobenzyl ester.

- End of Case -

In re Mulder and Wulms, 219 USPQ 189 (CA FC 1983)

In re Mulder and Wulms

(CA FC)
219 USPQ 189

Decided Aug. 23, 1983
No. 83-647
U.S. Court of Appeals Federal Circuit

Headnotes

PATENTS

1. Affidavits -- Anticipation references (Rule 131) (§ 12.3)

Patentability -- Anticipation -- Carrying date back of references (§ 51.203)

Patent Rule 131(b) says that applicants who have shown no actual reduction to practice of invention in this country and no constructive reduction prior to date of reference have to show conception in this country prior to reference's date coupled with due diligence from that date to application's filing.

2. Affidavits -- Anticipating references (Rule 131) (§ 12.3)

Patentability -- Anticipation -- Carrying date back of references (§ 51.203)

Although Patent Rule 131 refers to facts showing invention's completion in this country, Rule 131(b) makes distinction between actual reduction to practice, which has to be in this country, and application's filing.

3. Interference -- Reduction to practice -- Constructive reduction (§ 41.755)

35 USC 104, which prohibits reliance on activity in foreign country in establishing "date of invention," has express exception as provided in Sections 119 and 365; Section 119 provides that when U.S. application is filed within year from application in convention country such as Netherlands, when all formalities have been complied with, U.S. application has same effect as same application would have if filed in this country on date on which application for patent for same invention was first filed in that foreign country.

4. Interference -- Reduction to practice -- Constructive reduction (§ 41.755)

Patentability -- Anticipation -- Carrying date back of references (§ 51.203)

Section 119 is "patent-saving" provision for applicants' benefit, and applicant is entitled to rely on it as constructive reduction to practice to overcome reference's date under Patent Rule 131; entitlement to foreign filing date that can completely overcome reference can partially overcome reference by providing constructive reduction to practice element of proof required by Rule 131; it is statutory priority right that cannot be interfered with by construction placed on PTO rule.

5. Patentability -- Anticipation -- Publications -- In general (§ 51.2271)

Printed publication that is prior art under 35 USC 102(a) is also "prior art" under Section 103.

6. Interference -- In general (§ 41.01)

Patentability -- Anticipation -- Carrying date back of references (§ 51.203)

Interferences involve policy questions not present when antedating a reference.

7. Affidavits -- Anticipating references (Rule 131) (§ 12.3)

Patentability -- Anticipation -- Carrying date back of references (§ 51.203)

Patent Rule 131 requires proof of diligence coupling conception to application's filing.

8. Affidavits -- Anticipating references (Rule 131) (§ 12.3)

Patent Rule 131 cannot be liberally construed to point of eliminating all proof of diligence, no matter how short period to be covered.

9. Patentability -- Anticipation -- Carrying date back of references (§ 51.203)

In re Stempel, 113 USPQ 77, had nothing to do with facts where issue is not what has been antedated but whether reference has been antedated at all.

10. Patentability -- Anticipation -- Carrying date back of references (§ 51.203)

What applicants must prove in order to have possession of invention is reduction to practice carried back to date prior to reference by connecting link of diligence, else they do not have kind of "possession" In re Clarke, 199 USPQ 665, and Patent Rule 131 require.

11. Construction of specification and claims -- "Means" claims (§ 22.60)

Claim drafted in "means plus function" format is construed to cover corresponding structure described in specification and its equivalents.

12. Court of Appeals for the Federal Circuit -- Weight given decision reviewed (§ 26.59)

Appellants to obtain reversal of rejection of appealed claims must clearly explain why Board of

Appeals decision on appellants' arguments to board is wrong, not merely repeat those arguments hoping for different result.

Particular patents -- Integrated Circuit

Mulder and Wulms, Integrated Circuit, rejection of claims 2-4, 9, 31-33, 39-42, and 44 affirmed.

Case History and Disposition:

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Appeal from Patent and Trademark Office Board of Appeals.

Application for patent of Cornelius Mulder and Henricus Elisabeth Jozef Wulms, Serial No. 602,473, filed Aug. 6, 1975. From decision rejecting claims, applicants appeal. Affirmed.

Attorneys:
StevenR. Biren, Tarrytown, N.Y., for appellant.

Thomas E. Lynch (Joseph F. Nakamura and Jere W. Sears, on the brief) for appellee.

Judge:
Before Markey, Chief Judge, and Rich and Bennett, Circuit Judges.

Opinion Text

Opinion By:
Rich, Circuit Judge.

This appeal is from the July 27, 1982, decision, adhered to on reconsideration October 19, 1982, of the U.S. Patent and Trademark Office (PTO) Board of Appeals (board) affirming the examiner's rejection under 35 USC 103 of certain claims [1] of appellants' application, serial No. 602,473, filed August 6, 1975, for "Integrated Circuit." Appellants claim the benefit under 35 USC 119 of a convention filing date in the Netherlands of October 9, 1974. We affirm.

Our jurisdiction of the appeal is under 28 USC 1295(a)(4)(A), (Pub. L. 97-164, Title 1, §127(a), Apr. 2, 1982, 96 Stat. 37).

Background

This ex parte appeal from the PTO involves appellants' patent application on an integrated circuit, the appealed claims of which stand rejected for obviousness under §103 in view of prior art disclosed in an article by Rodgers et al., published in the IEEE Journal of Solid State Circuits, Vol. SC-9, No. 5, pages 247 and 248 (Rodgers), combined with one or more of the following:

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The real party in interest here is the assignee of appellants, U.S. Philips Corporation, which is affiliated with N.V. Philips Gloeilampenfabrieken of the Netherlands, where the applicants are

located. The U.S. patent application was prepared in the Netherlands and sent to the patent department of U.S. Philips Corporation in Briarcliff Manor, N.Y., where it was received on July 15, 1974. A corresponding Netherlands patent application was filed on October 9, 1974. The U.S. application was filed within a year under the International Convention on August 6, 1975, claiming the benefit of the Netherlands filing date under 35 USC 119. The PTO has accorded applicants that date. There is no question that applicants complied with all of the formalities required by §119 and related PTO rules.

Confronted with rejections of claims based in part, if not primarily, on Rodgers, appellants attempted to antedate, and thus remove, that reference as prior art, by filing declarations under 37 CFR 1.131 (Rule 131). In pertinent part, the rule reads (emphasis ours):

> §1.131 Affidavit or declaration of prior invention to overcome cited patent or publication.
>
> (a) When any claim of an application is rejected on reference to a * * * printed
>
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>
> publication, and the applicant shall make oath or declaration as to *facts showing a completion of the invention in this country* * * * before the date of the printed publication, then the * * * publication cited shall not bar the grant of a patent to the applicant, unless the date of such * * * printed publication be more than one year prior to the date on which the application was *filed in this country* .
>
> (b) The showing of facts shall be such, in character and weight, as to establish reduction to practice prior to the effective date of the reference, or *conception of the invention prior to the effective date of the reference coupled with due diligence from said date to a subsequent reduction to practice or to the filing of the application* . Original exhibits of drawings or records, or photocopies thereof, must accompany and form part of the affidavit or declaration or their absence satisfactorily explained.

Applicants proved to the satisfaction of the PTO the receipt in this country of the draft patent application which was accepted as a fact showing conception of the invention prior to Rodgers' publication date, which date is taken by the PTO to be the receipt of the IEEE Journal containing the Rodgers article by the PTO on October 7, 1974. Appellants make a half-hearted attempt to question the October 7 date by pointing out that the examiner did not receive his copy until October 10, but the copy relied on bears a PTO receipt stamp of October 7, amounting to an official record which appellants have not disproved.

The foregoing facts can be better visualized from the following chart, adapted from one in appellants' brief:
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Issues

The primary issue is the obviousness of the invention as defined in the appealed claims in view of the references relied on. Preliminary thereto is the question whether the Rodgers article has been overcome as a reference, and involved in that issue is the question whether appellants are entitled to their Netherlands filing date as a constructive reduction to practice. These questions will be considered in the reverse order of their statement.

Opinion

[1] Adverting to Rule 131, supra, as appellants have shown no actual reduction to practice of the invention in this country and no constructive reduction prior to the date of Rodgers, what Rule 131 (b) says they have to show is conception in this country prior to Rodgers' date coupled with "due

diligence from said date to * * * the filing of the application." The first question, therefore, is the date of conception in this country. The PTO (both the examiner and the board) have accepted July 15, 1974, the date of receipt in the U.S. of the draft application, as a conception date.

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The next question is whether appellants are entitled, as a date of constructive reduction to practice, to the Netherlands or only to the actual U.S. filing date. The examiner said it was the former, the board the latter. We agree with the examiner.

[2][3][4] The board cited no authority for depriving appellants of the benefit of their convention filing date; it only remarked that "the events of concern under 37 CFR 1.131 are events that occur in this country." It made no reference to §119 of the statute. We note that Rule 131 refers to "facts showing a completion of the invention in this country" but we also note that in (b) it makes a distinction between an *actual* reduction to practice (which has to be "in this country") and the "filing of the application." We are also aware of the statute which prohibits reliance on "activity * * * in a foreign country" in establishing "a date of invention," 35 USC 104. But that same statute has an express exception -- "except as provided in sections 119 and 365 of this title." It is §119 with which we are concerned. It provides that when a U.S. application has been filed, as was the application in this case, within a year from an application in a convention country such as the Netherlands, the formalities all being complied with, the U.S. application

> * * * shall have the same effect as the same application would have if filed in this country on the date on which the application for patent for the same invention was first filed in such foreign country * * *.

We hold that this provision entitles appellants to rely on their Netherlands filing date for a constructive reduction to practice. Section 119 is a "patent-saving" provision for the benefit of applicants, and an applicant is entitled to rely on it as a constructive reduction to practice to overcome the date of a reference under Rule 131. In re Ziegler, 52 CCPA 1473, 347 F.2d 642, 146 USPQ 76 (1965) (convention German filing dates available to overcome references under §119). If entitlement to a foreign filing date can completely overcome a reference we see no reason why it cannot partially overcome a reference by providing the constructive reduction to practice element of proof required by Rule 131. It is a *statutory* priority right which cannot be interfered with by a construction placed on a PTO rule. Cf. In re Hilmer, 53 CCPA 1288, 1312, 359 F.2d 859, 878, 149 USPQ 480, 496 (1966).

[5][6][7] This brings us to the next question under Rule 131. Referring to the time chart, supra, appellants have their conception date of July 15, 1974, and their constructive reduction to practice date of October 9, 1974, and Rule 131 requires that these dates must be "coupled with due diligence." Appellants would have us treat this case as though it were an interference between them and Rodgers, treating Rodgers as an applicant for a patent. But Rodgers is not an applicant and this is not an interference. Rodgers is a printed publication which is prior art under 35 USC 102(a), unless shown not to be prior, and thus also "prior art" under §103. Interference rules do not necessarily apply; nothing is to be gained by treating the situation as though it were something it is not. Interferences involve policy questions not present when antedating a reference. The argument is that *if* this were an interference, and *if* Rodgers were an applicant who has not reduced to practice at all, appellants were first to conceive and first to reduce to practice and would not have to prove diligence. This argument "won't fly." This is not an interference. Rule 131 requires proof of diligence coupling conception to the filing of the application.

[8] The next argument is that there is only a two-day period between the Rodgers' effective date and the filing date, that diligence need be shown only from *just prior* to Rodgers' date, that the gap is very short, and that Rule 131 should be "liberally construed." A liberal construction of the rule, which is clearly intended to benefit applicants, will permit applicants to show diligence from just

prior to the date of the reference to their convention filing date, rather than all the way from their proven conception date, but liberality cannot be extended to the point of eliminating all proof of diligence, no matter how short the period to be covered. Appellants' difficulty, as they have had to admit, is that there is no evidence whatever of record showing diligence, and therefore they cannot comply with the rule. Focussing on the shortness of the gap is misleading. During the period between the time the draft application was received in this country and the time the application was filed in the U.S. PTO, the record shows no activity of any kind in this country. The only intervening event of record respecting this invention is the filing of the patent application in the Netherlands. Even that was not done until nearly 3 months after the draft U.S. application was dispatched. Under the circumstances, the PTO's refusal to accept the declarations as meeting the requirements of Rule 131 must be affirmed because of a total lack of evidence of diligence to *couple* conception to the filing date -- leaving a hiatus -- and Rodgers must be treated as prior art.

[9] Appellants assert there is "CCPA authority" contrary to the board's interpretation of Rule 131 which, except for its refusal of the convention filing date for constructive reduction to practice, we approve. We see none. They have relied heavily on In re Stempel, 44 CCPA 820, 241 F.2d 755, 113 USPQ 77 (1957). Their reliance is misplaced. While the court there did construe Rule 131 "liberally," and in one respect contrary to its express terms to give Stempel his statutory rights, it was on a point having no bearing on the fact situation here and, more particularly, having nothing to do with the necessity for showing diligence. The essence of Stempel is that there the facts established by affidavits under Rule 131 did not show that Stempel had completed the generic invention of the rejected claims although they did antedate "all pertinent subject matter" disclosed in the reference. The court held that sufficed, notwithstanding the words "completion of the invention" appearing in the rule. The case had nothing to do with facts such as those controlling here where the issue is not *what* has been antedated but *whether* the reference has been antedated at all.

[10] Another case appellants rely on is In re Clarke, 53 CCPA 954, 356 F.2d 987, 199 USPQ 665 (1966). Apparently, that is where they got the expression "possession" of the invention which they use to argue that they were in possession of "everything relevant to the invention disclosed by Rodgers" before the date of that reference. It could be that they were, in the conception sense, but that is not the issue. What they must prove in order to have possession is reduction to practice carried back to a date prior to Rodgers by the connecting link of diligence, else they do not have the kind of "possession" Clarke and Rule 131 require. The rejection in Clark was affirmed for, among other things, lack of a showing of diligence and we do not see how the case helps appellants, who are not using "possession" in the sense it was used in the Clarke opinion.

We have examined the other cases cited by appellants and find them of no more help to their contentions than those discussed above.

We turn now to the main issue of obviousness treating Rodgers as prior art.

The Obviousness Issue

a) The claimed invention

The invention of the appealed claims is a particular form of an Integrated Injection Logic (IIL or I 2L) circuit. I 2L circuits contain numerous logic gates each comprising a pair of transistors, one NPN type and one PNP type, one such gate being shown in schematic form within the broken line box 21 in a portion of appellants' Fig. 2:
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For each transistor, shown in conventional symbols, the emitter, base, and collector (three collectors

in the case of the NPN transistor) have been labeled E, B, and C, respectively. In the arrangement shown, the NPN transistor (on the right) is called the "inverter" transistor, and the PNP transistor (on the upper left) is called the "complementary" transistor. The emitter 14 of the PNP transistor is called the "injector." Note that the collector of the PNP transistor is connected to the base of the NPN transistor, and the base of the PNP transistor is connected to the emitter of the NPN transistor.

A significant feature of this simple arrangement is that the two sets of electrically connected portions of the transistor pair can each share a common physical region of the doped semiconductor material in which they are formed. Thus, the arrangement lends itself to certain clever layouts or "topologies" of variously doped semiconductor material in the design of integrated circuits containing vast arrays of these gates. Appellants disclose an example of their topology in their Fig. 5:

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The PTO solicitor aptly described this figure in his brief:

> The inverter NPN transistors are layed out in horizontal rows, whereas the conductive metal electrical interconnections are disclosed as vertical columns 86. Also, the emitters of the complementary PNP transistors are indicated by blocks 87, disclosed as vertical rails or columns on either side of the device, and the conductive metal electrical connections for the PNP transistor are labeled 88. The horizontal blocks 61-85 are the collectors for the PNP transistors, as well as the bases for the NPN transistors. * * * Finally, the unlabeled squares shown adjacent blocks 61-85 are the output collectors for the NPN transistors.

Appellants describe their invention thus:

> A principle object of the invention is the provision of an I 2L circuit having a topology or layout which particularly lends itself to the use of computer-aided design, but where the usual loss of packing density previously associated with such techniques is minimized and where there is little sacrifice in the switching speed or delay time of the logic gate circuits.
>
> The concept embodied in appellants' structure is to provide a column of complementary transistor emitter zones adjacent and parallel to an array of parallel-extending straight conductors or signal tracks. An array of inverter transistor gate circuits occupying different lengths are arranged in rows crossing the signal tracks and extending from a location in the vicinity of the complementary transistor emitter zones. The connections to the base regions and one or more collector regions in each inverter transistor gate circuit are made at the intersections of the straight signal tracks with the base and collector regions, regardless of the lateral spacing between the connections in a given row. That is why the lengths of the rows occupied by some of the gate circuits are different and why the spacing in the base and collector connections in a given row are different from those in another row.

Claim 39 is typical of the claims on appeal:

> 39. An integrated circuit comprising a common semiconductor body portion, said body portion comprising plural gate circuits each comprising at least one inverter transistor having emitter and base zones and at least one collector, and a complementary transistor connected to the inverter transistor for biasing same and having emitter, base and collector zones with the complementary transistor having its collector zone connected to the inverter transistor base zone, and each gate circuit having means connecting the complementary transistor base zone and the inverter transistor emitter zone in a d.c. path, said inverter transistor being arranged along substantially parallel rows with all the inverter transistor collectors of the

same gate circuit being located along the same row and wherein at least some of the gate circuits occupy different lengths in the row direction, means for interconnecting inverter transistor collectors and base zones of different gate circuits located in different rows to form desired logic, said inverter transistor collector and base zone interconnecting means comprising a group of elongated signal tracks substantially all of which extend substantially their entire length in mutually parallel straight lines and over the body substantially transversely to the row directions, said signal-track-interconnected collectors in different rows being located under the interconnecting signal track, at least plural tracks in the group of signal tracks interconnecting gate circuits in nonadjacent rows and crossing over at least one gate circuit in an intervening row, a plurality of said gate circuits each having connections to said signal tracks that are

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spaced apart in the row direction by distances that are different from the spacing of signal track connections to other gate circuits, the biasing complementary transistor emitter zones being located along a column extending parallel to and located alongside the said group of signal tracks, and means for isolating adjacent rows of inverter transistors.

b. *The references*

The primary reference is Rodgers, which discloses application of a "layout algorithm" to produce an I 2L circuit layout resembling that of appellants except that is has regular rows of doped semiconductor regions all of equal length. Rodgers contains no explanation of why these regions all have the same length.

The article by de Troye discusses some of the trade-offs involved in varying the physical arrangement of the N-type semiconductor with respect to the injector. Also disclosed is an I 2L circuit in which the base regions vary in size and shape, but in which the circuit components nevertheless form an ordered array.

Agraz-Guerena shows an I 2L circuit having an annular structure which contains heavily doped, low resistivity base regions.

Hart shows an I 2L memory circuit, and a conventional I 2L circuit including the use of electrically insulative material to isolate the separate base regions.

Berger shows the use of separate external PNP current sources in a complementary transistor device which the examiner characterized as a forerunner to I 2L circuitry.

c. *The rejections*

There are four obviousness rejections, which will be discussed separately. Inasmuch as the solicitor in his brief incorporated by reference the position of the board, it is the board's position which will be set forth in connection with each rejection.

(1) Claims 9, 39-41, and 44 stand rejected as obvious from Rodgers' disclosure of an ordered array of I 2L elements having the same length considered together with de Troye's disclosure of an I 2L device having base regions of varying lengths. The board agreed with the examiner that one skilled in the art would have been motivated to increase the packing density of a Rodgers-type array by making the base regions only as long as necessary as taught by de Troye. Appellants had argued to the board that Rodgers had made all of his bases of equal length in order to achieve the desirable result of equalizing capacitances. However, the board found no basis for this argument in the Rodgers' article, and opined that, even if appellants were correct, equalized capacitance and high packing density were obvious trade-offs. Appellants also argued that the layout of their array lent itself particularly well to computer-aided design. The board rejected this argument as well, because

the claims are not limited to computer-aided design, and because it felt that the elements in Rodgers' arrays are also arranged so as to be susceptible to computer-aided design. The board paid special attention to claim 9, which depends from claim 39 and recites additionally "means to reduce the input series resistance of the gate circuits." The board asserted that the arrangement disclosed in de Troye comprised such means.

On appeal, appellants adhere to their position that to make the gate circuits in Rodgers of varying lengths would be "contrary to the intent of Rodgers." This argument is not convincing. Appellants concede that Rodgers does not reveal why the gates are all the same length, so that there is manifestly no "intent" to which varying length can be contrary. Appellants also repeat their assertions about how their layout lends itself to computer-aided design. They say that de Troye's layout is not a matrix-ordered array, and so, presumably, not as well suited to computer-aided design. Rodgers, however, is manifestly a matrix-ordered layout, and appellants have not shown what differences between their invention and what is suggested by Rodgers and de Troye considered together would make their invention superior for computer-aided design.

[11] With respect to claim 9, we note that it is drafted in "means plus function" format, so that it is "construed to cover the corresponding structure * * * described in the specification and equivalents thereof." 35 USC 112. As stated above, the board said that de Troye's arrangement constituted means to reduce input series resistance. Appellants have neither asserted nor shown that de Troye's structure is not the equivalent of the structure disclosed in their specification for reducing input series resistance.

In view of the above, we affirm the decision of the board with respect to the above rejection of claims 9, 39-41, and 44.

(2) Claims 9 and 42 stand rejected for obviousness from Rodgers and de Troye as discussed, together with Agraz-Guerena's disclosure of heavily doped, low resistivity base portions. Appellants argued to the board that it would not have been obvious to use the teachings of Agraz-Guerena in a matrix I 2L array because Agraz-Guerena teaches an annular structure. The board saw no reason

why such a structure would not be suitable in a matrix array, and in addition noted that claims 9 and 42 are not limited to appellants' disclosed comb-type array. On appeal, appellants repeat their conclusory assertion that Agraz-Guerena's annular structure would have made application of its teachings to a comb-type structure nonobvious. In the absence of specifics or evidence as to why this is the case, we cannot say that the board erred in affirming the examiner's rejection. Hence, the board's decision with respect to this rejection is affirmed.

(3) Claims 2-4 stand rejected on Rodgers and de Troye together with Hart's disclosure showing the physical structure of a conventional I 2L circuit. Both before the board and this court appellants have not argued that claims 2-4 recite patentable subject matter independently of claim 39, from which they depend. Inasmuch as we have affirmed the board's decision with respect to claim 39, we affirm it with respect to claims 2-4 as well.

(4) Finally, claims 31-33 stand rejected on Rodgers, considered together with Hart's teaching of a conventional I 2L structure, and Berger's teaching of separate current sources. The board said that in view of these combined teachings, the use of an external conductor to couple the inverter base and current source collector would have been obvious. The board also stated that Hart suggests internally coupling transistor regions, and noted that claims 31-33 do not appear to distinguish over what appellants had illustrated as prior art in Fig. 1 of their application.

The board's affirmance of this rejection is the only decision on nonobviousness which appellants addressed in their request to the board for reconsideration. Therein they said that Berger does not show the electrical connection between the complementary transistor base zone and the inverter

transistor emitter zone and at the same time an external connection between the complementary transistor collector zone and to the inverter transistor base zone as specified in claim 31. Appellants also contest the board's assertion that claims 31-33 read on what appellants labeled prior art in their specification. In denying the request for reconsideration, the board emphasized that the rejection had been premised on Berger *together with* Rodgers and Hart, not on Berger alone, and that Berger did indeed show those features for which it had been cited. The board also reaffirmed its belief that claims 31-33 read on conceded prior art.

On appeal, appellants now assert that Berger has "no relevance to appellants' gate array" and that the teachings of Rodgers and Hart cannot be combined with those of Berger to "render the present invention obvious." Appellants then proceed to assail the board's decision with exactly the same arguments which were unavailing before the board.

[12] We find these arguments unpersuasive. Appellants offer only unsupported conclusions which find no basis in any evidence of record. In short, we find appellants' mere repetition of arguments fully answered by the board. To obtain reversal, appellants must clearly explain why the board decision on those arguments is wrong, not merely repeat arguments made to the board hoping for a different result. We therefore affirm the decision of the board with respect to claims 31-33.

The decision of the board affirming rejections of all appealed claims, 2-4, 9, 31-33, 39-42, and 44 is *affirmed* .

Affirmed .

Footnotes

Footnote 1. The claims on appeal to the board were 2-5, 7-9, 16-18, 20, 21, 23, 24, 31-33, 39-42, and 44. Claims 29, 30, and 45-47 had been allowed by the examiner. The board reversed the rejection of claims 5, 7, 8, 16-18, 20, 21, 23, 24, and 25. The claims on appeal to this court are 2-4, 9, 31-33, 39-42, and 44.

- End of Case -